

**Notice of Allowability**

Application No.

09/608,632

Examiner

Charles E Anya

Applicant(s)

SHAH, RAJESH R.

Art Unit

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's remarks/argument of 7/2/04.
2. ☒ The allowed claim(s) is/are 1,2,6,8-22 and 25: now renumbered as 1-19.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 11/1/04.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

MENG-AL J. AN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Ms. Libby Hope (Reg. No. 46,774) on 10/29/04.

In the claims:

- a. Claim 1, replace with the following claim 1:

Claim 1. A method of loading a driver into a host coupled to an interconnection fabric including a fabric-attached I/O enclosure comprising:

assigning a fabric-attached I/O controller that is within said fabric-attached I/O enclosure to the host;

determining the driver to be loaded into the host;

before loading the driver for said fabric-attached I/O controller into the host, sending a verification message to said fabric-attached I/O controller from a fabric control driver of the host via the interconnection fabric to determine whether a communication path exists including determining if a local channel adapter port in the host is initialized and connected from the host to the fabric-attached I/O controller within the fabric-attached I/O enclosure; and

if the fabric-attached I/O enclosure responds to the verification message, then loading the driver into the host.

b. Claim 2, replace with the following claim 2:

Claim 2. The method as claimed in claim 1, further comprising:  
alternatively, before loading the driver for the fabric-attached I/O controller into the host, periodically querying the state of a local channel adapter port by the fabric control driver to determining whether a host-fabric adapter in the host has been initialized and connected to the interconnection fabric; and

if the host-fabric adapter in the host has been initialized and connected to the interconnection fabric, then loading the driver into the host.

c. Cancel claim 5;

d. Claim 6, replace with the following claim 6:

Claim 6. A method of loading a list of plurality of drivers in a plurality of hosts coupled to an interconnection fabric including a plurality of fabric-attached I/O enclosures, comprising:

assigning a plurality of fabric-attached I/O controllers that are within the plurality of fabric-attached I/O enclosures to the plurality of hosts;

determining a list of a plurality of drivers to be loaded into the plurality of hosts, the list of plurality of drivers corresponding to the plurality of fabric-attached I/O controllers;

before loading the list of plurality of drivers into the plurality of hosts, for each of the driver in the list of plurality of drivers, sending a verification message to one of the plurality of fabric-attached I/O controllers that corresponds to the driver in list of plurality of drivers from a fabric control driver to determine if a local channel adapter port in the host is initialized and connected to the interconnection fabric; and

modifying the list of plurality of drivers based on a reply received in response to the verification message.

e. Claim 8;

- line 3, insert after request" -- the plurality of fabric-attached --;

f. Claim 9;

- line 2, insert after request" -- the plurality of fabric-attached --;

g. Claim 11;

- line 2, replace "response" with -- reply --;

- line 2, insert after "completed of" -- the --;

- line 6, insert after "of" -- fabric-attached --;

h. Claim 12;

- line 2, insert after "notifying" – the --;

i. Claim 13, replace with the following claim 13:

Claim 13. A computer readable medium having stored thereon instructions which, when executed by a processor, cause the processor to perform a method for loading a plurality of drivers into a plurality of hosts coupled to an interconnection fabric including a plurality of fabric-attached I/O enclosures, said method comprising:

- assigning a plurality of fabric-attached I/O controllers that are within the plurality of fabric-attached I/O enclosures to the plurality of hosts;

- determining a list of the plurality of drivers that correspond to the plurality of fabric-attached I/O controllers to be loaded into the plurality of hosts;

- before loading any of the plurality of drivers into the plurality of hosts, for each of the plurality of drivers, sending a verification message to a corresponding fabric-attached I/O controller from a fabric control driver of one of the plurality of hosts to determine if a local channel adapter port in one of the plurality of host is initialized and connected to the interconnection fabric; and

- modifying the list of plurality of drivers based on a reply received in response to the verification message.

j. Claim 14;

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- line 2, insert after "a" – timer --;

k. Claim 15;

- line 3, insert after "request" – a list of the plurality of fabric-attached --;

l. Claim 16;

- line 3, insert after "request" – a list of the plurality of fabric-attached --;

m. Claim 18;

- line 2, replace "response" with – reply --;
- line 2, insert after "completed of" – the --;
- line 6, insert after "of" -- the plurality of fabric-attached --;

n. Claim 19;

- line 2, replace "notifying a" with – notifying the --;
- line 2, insert after "when" – the --;

o. Claim 20, replace with the following claim 20:

Claim 20. A network comprising:

an interconnection fabric;

a host comprising an operating system and at least one host-fabric adapter of the host provided to interface with the interconnection fabric;

a fabric-attached I/O enclosure including at least one fabric-attached I/O controller assigned to the host and attached to the interconnection fabric; wherein, for a given host-fabric adapter of the at least one host-fabric adapter, and for a given fabric-attached I/O controller of the at least one fabric-attached I/O controller, the operating system within the host:

determines if the given host-fabric adapter has been initialized and connected for fabric communication by sending verification messages from a fabric control driver of the host to the at least one fabric-attached I/O controller; and

if the given host-fabric adapter has been initialized and connected for fabric communication, loading a driver that corresponds to the given fabric-attached I/O controller assigned to the host, into the host for communication with the at least one fabric-attached I/O controller, via the interconnection fabric.

p. Claim 21, replace with the following claim 21:

Claim 21. The network as claimed in claim 20, wherein:

the interconnection fabric includes one or more intervening switches having forwarding tables for forwarding data from the host to the at least one fabric-attached I/O controller; and

the operating system including the fabric control driver to provide bus abstraction and to result in the loading of the driver for the corresponding at least one fabric-attached I/O controller, including determining whether a communication channel to the

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at least one fabric-attached I/O controller exists before loading into the host the driver that corresponds to the at least one fabric-attached I/O controller.

q. Claim 25;

- line 2, insert after "to" -- the --;

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E Anya whose telephone number is (571) 272-3757. The examiner can normally be reached on M-F (8:30-6:00) First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, An Meng-Ai can be reached on (571) 272-. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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